



Derivative Rules - Sum Rule Negative Powers (with Rule) to Derivative

1 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = -4x^{-1} - 5x^3 - 2x$$

A $f'(x) = 4x^{-2} - 15x^2 - 2$

B $f'(x) = -4x^{-2} - 5x^2 - 2$

C $f'(x) = 4x^{-1} - 15x^3 - 2x$

2 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = 3x^{-2} + 3x^3$$

A $f'(x) = -6x^{-2} + 9x^3$

B $f'(x) = -6x^{-3} + 9x^2$

C $f'(x) = 3x^{-3} + 3x^2$

3 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = -5x^{-3} - 4x^3$$

A $f'(x) = -5x^{-4} - 4x^2$

B $f'(x) = 15x^{-4} - 12x^2$

C $f'(x) = 15x^{-3} - 12x^3$

4 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = 2x^{-1} - 5x^3$$

A $f'(x) = -2x^{-2} - 15x^2$

B $f'(x) = 2x^{-2} - 5x^2$

C $f'(x) = -2x^{-1} - 15x^3$

5 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = 4x^{-3} - 3x^2$$

A $f'(x) = 4x^{-4} - 3x$

B $f'(x) = -12x^{-3} - 6x^2$

C $f'(x) = -12x^{-4} - 6x$

6 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = -5x^{-1} + 2x^3$$

A $f'(x) = -5x^{-2} + 2x^2$

B $f'(x) = 5x^{-1} + 6x^3$

C $f'(x) = 5x^{-2} + 6x^2$

7 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = -5x^{-1} + 3$$

A $f'(x) = 5x^{-2}$

B $f'(x) = 5x^{-2} + 3$

C $f'(x) = 5x^{-1}$

D $f'(x) = -5x^{-2}$

8 Find the derivative $f'(x)$ using the sum rule.

$$\text{if } h(x) = f(x) + g(x), h'(x) = f'(x) + g'(x)$$

$$f(x) = -5x^{-1} + 5$$

A $f'(x) = 5x^{-2}$

B $f'(x) = 5x^{-1}$

C $f'(x) = -5x^{-2}$

D $f'(x) = 5x^{-2} + 5$